

AQUEOUS ALUMINUM BRAZING COMPOSITION,
ALUMINUM MATERIAL COATED WITH THE BRAZING COMPOSITION,
BRAZING METHOD USING THE ALUMINUM MATERIAL, AND
AUTOMOTIVE HEAT EXCHANGER MANUFACTURED BY
USING THE BRAZING METHOD

ABSTRACT

An aqueous aluminum brazing composition containing an organic binder and a zinc-based flux which prevents the precipitation of the zinc-based flux having a large specific gravity while securing an excellent brazeability. The thixotropic index of the brazing composition is adjusted to 1.01-1.20 by adding a (meth)acrylic acid/(meth)acrylate copolymer emulsion to the brazing composition as a precipitation inhibitor in an amount of 0.03-1.50 wt% of 100 wt% of the brazing composition. Since the (meth)acrylic acid/(meth)acrylate copolymer emulsion is used as the precipitation inhibitor in a specific amount instead of other types of compounds used for a powder-containing paint, such as ultrafine particle silica, poly(meth)acrylate, or polyvinyl alcohol, the precipitation of the zinc-based flux can be prevented without impairing the brazeability.